REMARKS

Reconsideration and allowance of the subject patent application are respectfully requested.

The Abstract has been amended to be in a more traditional U.S. format.

Applicant acknowledges with appreciation the indication that claims 21-25, 27, 47-55 and 58-80 contain allowable subject matter.

Claim 37 has been amended to depend from claim 34 as kindly suggested by the Examiner.

Claim 26 was rejected under 35 U.S.C. Section 112, second paragraph, as allegedly being indefinite. The term "discrete" in claim 26 has been changed to "separate" to clarify the claim language. Based on this amendment, withdrawal of the Section 112, second paragraph, rejection is respectfully requested.

Claims 1, 2, 5, 7, 10, 11, 15, 16, 18, 19, 32, 34, 35, 38, 40, 46 and 56 were rejected under 35 U.S.C. Section 102(e) as allegedly being "anticipated" by Sugihwo et al. (U.S. Patent No. 6,380,531). Claims 4, 9, 16, 19, 31, 33, 37 and 42 were rejected under 35 U.S.C. Section 103(a) as allegedly being made "obvious" by Sugihwo et al. While not acquiescing in this rejection or in the characterizations of Sugihwo et al. in the office action, claims 1 and 34 have been amended. The discussion below makes reference to the amended claims.

Claims 1 and 34 recite that the claimed detector is *disposed towards one end of the cavity and adjacent one of the first or second reflector layers*. Sugihwo at least lacks

this feature and consequently cannot anticipate claim 1 or claim 34, or the claims that depend therefrom.

In Sugihwo et al., a tunable detector is described with reference to Figure 4. Although the Figure 4 device has two reflectors and a cavity, the detector is located substantially centrally of the detector device. This means that the cavity is comprised of two materials: semiconductor below the detector 26 and an air gap above. The spacing of these two gaps is important and has a strong influence on the distribution of optical energy within the cavity. See also column 7, lines 14-20. This split cavity is necessary for operation of the device.

In contrast to the Sugihwo et al. arrangement, claims 1 and 34 recite in the above-italicized language that the detector is provided towards one end of the cavity and adjacent to one of the first or second reflectors. Consequently, Sugihwo et al. cannot anticipate claim 1 or claim 34, or the claims that depend therefrom. Moreover, Applicant notes that in view of the need for the device described in Sugihwo et al. to have a split air cavity (air and semiconductor), it would be counterintuitive to place the detector as claimed, as this would not provide a split semiconductor/air detector as taught by Sugihwo et al.

Hara (EP 1126256), Fska et al. (U.S. Patent No. 6,875,975), Pautrat et al. (U.S. Patent No. 6,013,912), McDaniel et al. (U.S. Patent Publication No. 2004/0070768), Tucker et al. (U.S. Patent No. 6,400,738) and Wang et al. (U.S. Patent Publication No. 2002/0048301) are cited in connection with certain dependent claims. These

documents do not remedy the deficiencies ofSugihwo et al. with respect to the above-italicized claim language and thus, even assuming for the sake argument that these documents were properly combinable with Sugihwo et al., the claimed subject matter would not have resulted.

The pending claims patentably distinguish from the applied references and favorable office action is respectfully requested.

Respectfully submitted,

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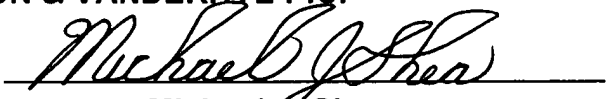
By: 

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